Tiffany, Bruce

From: Tiffany, Bruce
Sent: Friday, March 17, 2006 11:29 AM
To: 'Marilyn Guthrie (POS)'
Cc: 'Cargill, Dan'; 'Kathy Himes (PSCAA)'; Hulsizer, Elsie; Heinz, Dana
Subject: FW: Phthalate Monitoring

Hello Marilyn;

Before I go to much further, I should provide some background information on the passive deposition (rain) sampling that we are conducting in the Lower Duwamish drainage area.

As part of the evaluation of the air deposition pathway for Lower Duwamish source control, King County is currently collecting passive deposition samples from five (5) locations in the Lower Duwamish drainage area (see enclosed figure). Two of the stations are owned or operated by Ecology (Beacon Hill (BW) and Georgetown (DZ)). One station is owned and operated by PSCAA (Duwamish (CE)). And the two remaining sites are at the South Park Community Center (SPCC) and King County Airport (KCIA), respectively. Stations BW and CE are full air monitoring stations that provide useful meteorological information (e.g., wind speed and direction) and air quality data (e.g., PM2.5). It is hoped that having our samplers collocated at these stations may help in understanding potential sources in the Lower Duwamish drainage area.

For this phase of sampling we are trying to get a handle on the nature and extent of bis-2-ethylhexylphthalate (BEHP) and benzylbutylphthate (BBP) concentrations in the Lower Duwamish drainage area. The suite of chemicals we are analyzing for include six (6) phthalate compounds and the seven (7) carcinogenic PAH. The sampler that we use consists of a 1-ft diameter polypropylene funnel, 0.5-ft diameter stainless steel funnel, and 2.5 gallon wide-mouth glass carboy. The carboy is wrapped in aluminum foil to minimize photodegradation with the funnels secured in place with natural twine. The sampler remains in the field until between 2 to 6 liters of water are collected. I track rainfall at SeaTac to determine when samplers need to be replaced. Please see the attached photograph to view a sampler being placed in the field (Station DZ).

These samplers are simple, but are producing good data. For this phase of sampling, we decided to go with this approach instead of using high volume (Hi-Vol) air samplers. Use of Hi-Vol samplers by EPA Method TO-13A is still a feasibility at a later date, but there will be a substantial amount of method development required. The County's lead organic chemist talked with the developer of Method TO-13A and it was thought that it could be used for phthalates; however, since the method was developed for PAH, there was no guarantee that it would work. And as phthalates are in a lot of products (e.g., plastics), a lot of "blank" runs of the Hi-Vol sampler would be required. At our current level of understanding of the air deposition pathway, we decided not to pursue this sampling technique at this time.

The results we see to date indicate higher levels of BEHP at the Duwamish Station (CE). Since prevailing winds in the Duwamish basin generally come from the south, it would be helpful to place a sampler on a Port of Seattle site further to the north. The two most desireable candidates would be the rooftop of the Terminal 25 building (if accessible) or near the pier of the Jack Perry Memorial public access road (approximately near Gate 17).

I would welcome the opportunity to meet with you and discuss our work further. I would also like to bring along our specialist, Dana Heinz, who is leading the field sampling aspect of this work for us.

Thanks,

Bruce

BT Call-out Voice Mail to Marilyn Guthrie (MG) : 4/12/06@ 1450
I left a message for MG re: placement of rain samplers @ Port facilities

NO reply as of 04/27/06
-BT 04/27/06

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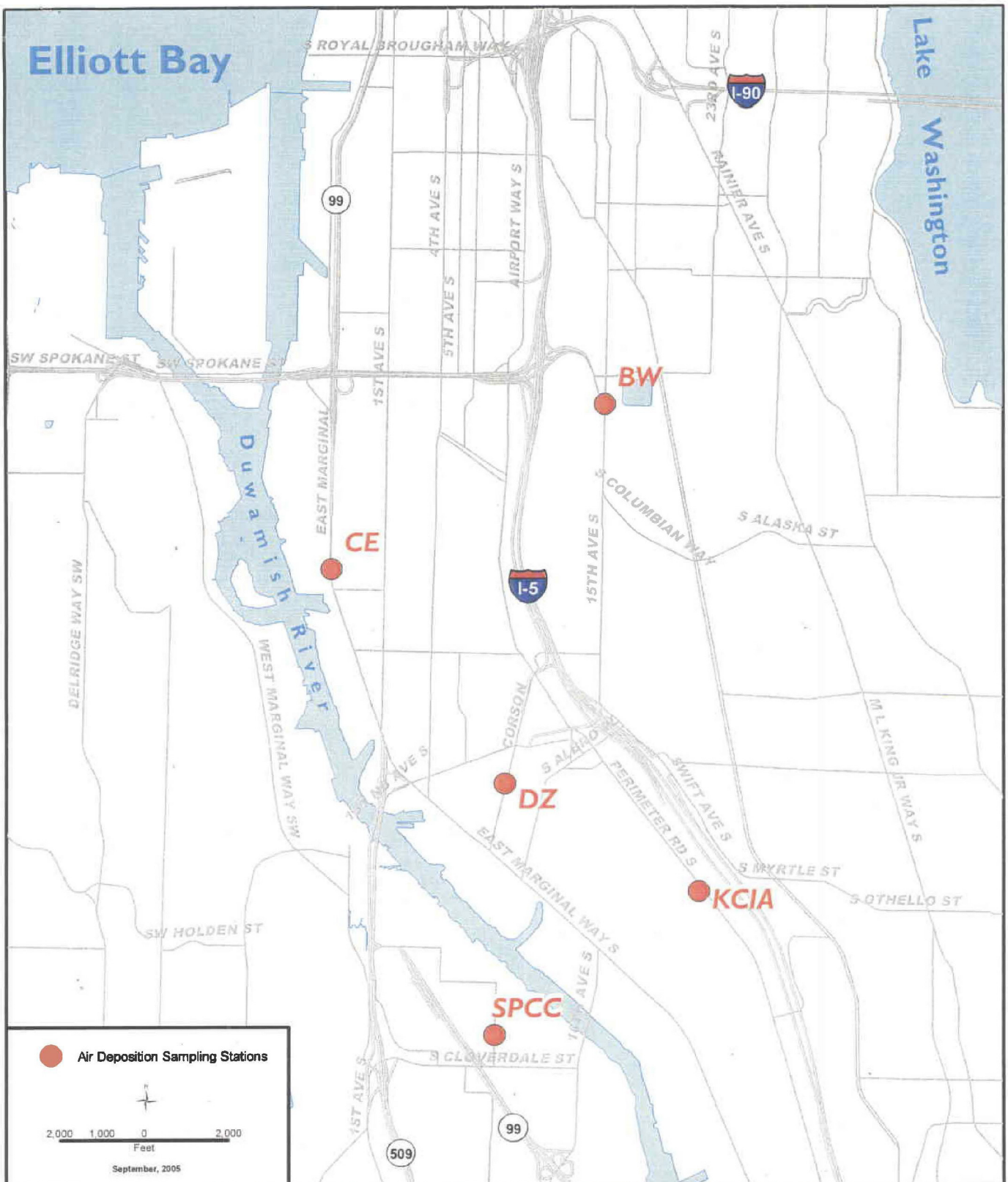
3/17/2006



King County
Department of
Natural Resources and Parks
Wastewater Treatment
Division

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Shaun O'Neil - September 21, 2005

Figure 1
Air Deposition Sampling Stations

KCSlip4 56511

SEA422831

KCSlip4 56512

SEA422832